

David Groves  
RAND Corporation  
1700 Main Street, PO Box 2138  
Santa Monica, CA 90407-2138

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Paul Dabbs  
Statewide Planning Branch  
California Department of Water Resources  
PO Box 942836  
Sacramento, CA 94236-0001

Dear Paul Dabbs:

These comments pertain to the January 2004 Draft of Chapter 3 of the 2003 Water Plan Update: Planning for an Uncertain Future. We are very supportive of DWR's use of scenarios to both communicate the uncertainty inherent in long-term water resources planning and as a framework for future analyses to identify policy responses that will perform well under a wide-range of plausible scenarios. We believe that this is a good first step towards successfully preparing for future water needs in California.

As was expressed at the California Water and Environmental Modeling Forum (CWEMF) 2004 Annual Meeting in February, the purpose and use of scenarios may need some clarification and refinement.

The text as currently written presents three future scenarios that differ by projected water use only. The scenarios do not reflect any uncertainty about water supply; although it is our understanding that the use scenarios would be evaluated against different hydrologic time conditions (reflecting supply uncertainties) in the next phase of the Water Plan Update.

Although the uncertainties surrounding future water use is large, the focus of Chapter 3 is primarily on uncertainties about future water supply due to prolonged droughts, climate change, degrading water quality, and catastrophic infrastructure damage. As the scenarios do not capture these important uncertainties it may not be evident to the reader how the scenarios will aid water planners in addressing these uncertainties.

Ideally, future water scenarios would also include supply uncertainties. For example, a scenario in which society develops in a resource intensive manner while runoff is decreased due to climate change, would be very different than one in which the resource intensive development were accompanied by significant technological advances that would lead to greater supplies. The purpose of the scenarios would be to alert water planners that either of the two cases *could* happen and long-term water management plans should be compatible with both.

In our view, it would be most helpful to add in a supply dimension to the narrative scenarios. By adding a high and low water supply component to each of the three demand scenarios presented, a more realistic picture of what water managers face will immerge. We recognize that DWR may not be able to do this so late in the Water Plan Update process. In this case, we would still encourage a more thorough exposition of what is missing from the scenarios and how it will be included in the future. This would provide member agencies and stakeholders with greater confidence that supply uncertainty issues are being addressed by DWR.

If the scenarios cannot be expanded to include supply uncertainties, then we propose the following changes to the text to enhance the description of the scenarios:

Chapter 3, page 1: remove "very". The scenarios are not dramatically different because supply is left out. Change the second sentence to read: "... capture a range of uncertainties for key factors affecting water demand." Add a third sentence: "At this time these scenarios do not consider uncertainties in water supplies, but in phase 2 of the Update, water supply uncertainties will be explicitly considered."

Chapter 3, page 2: After the description of the scenarios, a few sentences should be added explaining that supply uncertainties (and others, such as legal, management, etc.) are not explicitly represented.

Chapter 3.6, page 3 (Future Scenarios): After "The scenarios concentrate on statewide implications of regional shifts," add the following sentence: "In later analyses, these scenarios will be coupled with scenarios of future water supplies to produce a larger set of scenarios that capture uncertainties in future water use and future water supply."

Chapter 3.6, page 4 (Key Factors): Replace word "management" with "use".

Thank you for considering our comments to the 2003 State Water Plan.

Sincerely,

David Groves, M.S.  
Robert Lempert, Ph.D.